Algebra 1-2

Name ANSWER KEY ID: 1

# Chapter 3 Quiz Review - 3.1-3.4

Date _____ Period ____



**Write each as an algebraic expression.**

1) w increased by 11 is less than or equal to 30

$w + 11 \leq 30$

2) 5 less than y is greater than or equal to 40

$y - 5 \geq 40$

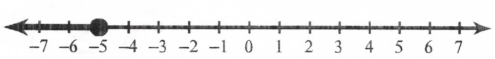
3) k increased by 8 is greater than or equal to 19

$k + 8 \geq 19$

4) the product of n and 9 is less than 24

$9n < 24$

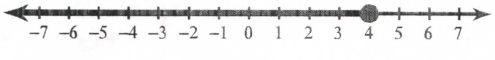
**Write an inequality for each graph.**

5) 

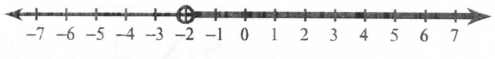

$x \leq -5$

6) 


$x > 1$

7) 

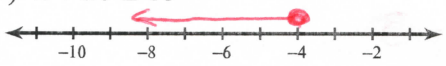

$x \leq 4$

8) 


$x > -2$

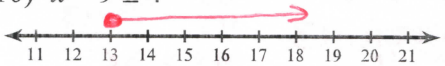
**Solve each inequality and graph its solution.**

9) $x + 20 \leq 16$



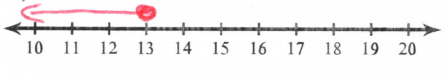

$x + 20 \leq 16$
$-20 \quad -20$
$x \leq -4$

10) $x - 9 \geq 4$



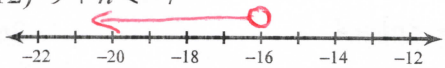

$x - 9 \geq 4$
$+9 \quad +9$
$x \geq 13$

11) $1 \geq k - 12$



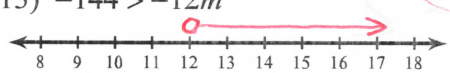

$1 \geq k - 12$
$+12 \quad +12$
$13 \geq k$
$k \leq 13$

12) $9 + n < -7$



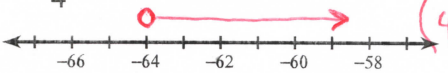

$9 + n < -7$
$-9 \quad -9$
$n < -16$

13) $-144 > -12m$



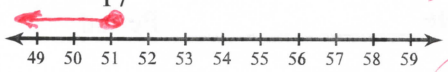

$-144 > -12m$
$-12$ FLIP IT! $-12$
$12 < m$
$m > 12$

14) $\frac{x}{4} > -16$




$(4)\left(\frac{x}{4}\right) > (-16)(4)$
$x > -64$

15) $3 \geq \frac{p}{17}$

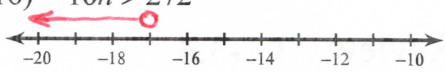



$(17)(3) \geq \left(\frac{p}{17}\right)(17)$

$51 \geq p$

$p \leq 51$

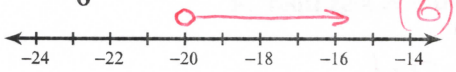
16) $-16n > 272$




$\frac{-16n}{-16} > \frac{272}{-16}$ FLIP IT!

$n < -17$

17) $\frac{8+n}{6} > -2$



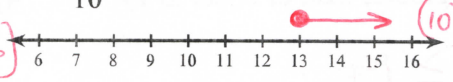

$(6)\left(\frac{8+n}{6}\right) > (-2)(6)$

$8+n > -12$

$-8 \quad -8$

$n > -20$

18) $\frac{x-3}{10} \geq 1$



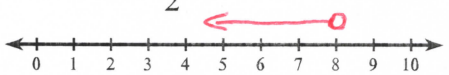

$(10)\left(\frac{x-3}{10}\right) \geq (1)(10)$

$x - 3 \geq 10$

$+3 \quad +3$

$x \geq 13$

19) $2 > -2 + \frac{r}{2}$




$2 > -2 + \frac{r}{2}$

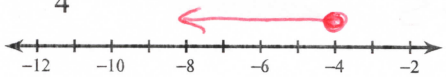
$+2 \quad +2$

$(2)(4) > \left(\frac{r}{2}\right)(2)$

$8 > r$

$r < 8$

20) $\frac{m}{4} - 6 \leq -7$




$\frac{m}{4} - 6 \leq -7$

$+6 \quad +6$

$(4)\left(\frac{m}{4}\right) \leq (-1)(4)$

$m \leq -4$

**Solve each inequality.**

21) $35 + 4k > -2(-6k + 4) - 5$

$35 + 4k > 12k - 8 - 5$

$35 + 4k > 12k - 13$

$-4k \quad -4k$

$35 > 8k - 13$

$+13 \quad +13$

$\frac{48}{8} > \frac{8k}{8}$

$6 > k$

22) $-6(5b + 7) > 33 - 5b$

$b < -3$

23) $2x - 6(-1 + 4x) \leq 35 + 7x$

$x \geq -1$

24) $8x - 21 > -7(3 - 6x)$

$x < 0$

25) $-8n - 22 > -2(-3 + 8n) - 4$

$n > 3$

26) $-2(7v + 1) \leq -6v + 38$

$v \geq -5$

27) $19 + n \leq -3 + 8(n + 8)$

$n \geq -6$

28) $-6n + 12 \leq -3(n - 6)$

$n \geq -2$

22. $-6(5b+7) > 33-5b$

$-30b-42 > 33-5b$

$+30b \qquad +30b$

$-42 > 33+25b$

$-33 \qquad -33$

$\frac{-75}{25} > \frac{25b}{25}$

$-3 > b$

$b < -3$

23. $2x-6(-1+4x) \leq 35+7x$

$2x+6-24x \leq 35+7x$

$6-22x \leq 35+7x$

$+22x \qquad +22x$

$6 \leq 35+29x$

$-35 \qquad -35$

$\frac{-29}{29} \leq \frac{29x}{29}$

$-1 \leq x$

$x \geq -1$

24. $8x-21 > -7(3-6x)$

$8x-21 > -21+42x$

$-8x \qquad -8x$

$-21 > -21+36x$

$+21 \qquad +21$

$\frac{0}{36} > \frac{36x}{36}$

$0 > x$

$x < 0$

25. $-8n-22 > -2(-3+8n)-4$

$-8n-22 > 6-16n-4$

$-8n-22 > 2-16n$

$+16n \qquad +16n$

$8n-22 > 2$

$+22 \qquad +22$

$\frac{8n}{8} > \frac{24}{8}$

$n > 3$

$n > 3$

26. $-2(7v+1) \leq -6v+38$

$-14v-2 \leq -6v+38$

$+14v \qquad +14v$

$-2 \leq 8v+38$

$-38 \qquad -38$

$\frac{-40}{8} \leq \frac{8v}{8}$

$-5 \leq v$

$v \geq -5$

27. $19+n \leq -3+8(n+8)$

$19+n \leq -3+8n+64$

$19+n \leq 8n+61$

$-n \qquad -n$

$19 \leq 7n+61$

$-61 \qquad -61$

$\frac{-42}{7} \leq \frac{7n}{7}$

$-6 \leq n$

$n \geq -6$

28. $-6n+12 \leq -3(n-6)$

$-6n+12 \leq -3n+18$

$+6n \quad +6n$

$12 \leq 3n+18$

$-18 \quad -18$

$-6 \leq 3n$

$3 \quad 3$

$-2 \leq n$

$n \geq -2$